What is claimed is:

1. A shape memory foam member, wherein

a coefficient of water absorption is in the range between 0.01 g/cm^3 and 0.2 g/cm^3 in a non-compressed state, and

said shape memory foam member with an original shape is compressed with heating; cooled with keeping said shape memory foam member in the compressed state; and released from the compressive pressure after cooling, and

the original shape of said shape memory foam member is substantially recovered by heating.

2. The shape memory foam member according to Claim 1, wherein a bulk density is not more than 400 kg/m^3.

3. An engine soundproof cover disposed to cover an engine, comprising:

a shape memory foam member provided on a surface of said soundproof cover which covers the engine.

4. The engine soundproof cover according to Claim 3, wherein

said shape memory foam member with an original shape is compressed with heating; cooled with keeping said shape memory foam member in the compressed state; and released from the compressive pressure after cooling, and

the original shape of said shape memory foam member is

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substantially recovered by heating.

5.   The engine soundproof cover according to Claim 4, wherein a coefficient of water absorption is in the range between 0.01 g/cm^3 and 0.2 g/cm^3 in a non-compressed state.

6.   The engine soundproof cover according to Claim 4, wherein a bulk density is not more than 400 kg/m^3.

7.   An engine soundproof structure comprising:
       a soundproof cover disposed to cover an engine,
       wherein a shape memory foam member is provided on a surface of said soundproof cover which covers the engine.

8.   The engine soundproof structure according to Claim 7, wherein
       the shape memory foam member with an original shape is compressed with heating; cooled with keeping the shape memory foam member in the compressed state; and released from the compressive pressure after cooling, and
       the original shape of the shape memory foam member is substantially recovered by heating.

9.   The engine soundproof cover according to Claim 8, wherein a coefficient of water absorption is in the range between 0.01 g/cm^3 and 0.2 g/cm^3 in a non-compressed state.

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10.   The engine soundproof cover according to Claim 8, wherein a bulk density is not more than 400 kg/m^3.

11.   A method of producing a shape memory foam member comprising:

   compressing the shape memory foam member with heating;

   cooling the shape memory foam member with keeping the shape memory foam member in the compressed state; and

   releasing the shape memory foam member from the compressive pressure after cooling thereby retaining a shape in the compressed state.

12.   The method of producing a shape memory foam member according to Claim 11, wherein a bulk density of the shape memory foam member is not more than 400 kg/m^3.